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FROM THE OTHER SIDE OF THE BARRICADE

BY EDWIN E. SLOSSON

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Now Literary Editor of *The Independent*

When Clemenceau, now Premier of France, was a young man he was a radical and a revolutionist, always "agin the guv'munt" and frequently stirring up disorder. When he first became premier the syndicalists thought they could do whatever they pleased so they declared a general strike and tried to tie up every railroad in the country. But Clemenceau put down disorder with an iron hand and kept the trains running in spite of everything. His early associates were shocked at this and one of them came to remonstrate with him and sought to confound him by quoting from some of his youthful speeches in defense of the right of revolution. Clemenceau heard him patiently and then replied: *"Mais, mon ami,* you do not understand. I am the same man I always was but now I am on the other side of the barricade."

When I was teaching chemistry a dozen years ago I thought as science professors generally do that editors were idiots. I was eloquent in my denunciation of the asininity of the so-called scientific articles that appeared in the popular press and my favorite amusement was to take a newspaper or a highly respected magazine before my class and have the Freshmen point out how ridiculous were the statements in its account of some alleged discovery, how much of it was false and how much of it was old.

But when I was called from the chemistry chair to the editorial chair I experienced a sudden change of heart or rather a change of attitude. My predecessor in the editorial office, one of the foremost literary men in America, and formerly a college professor, said to me as his parting advice: "Do not order anything from a college professor if you can help it. They never send you what you want and they never send it on time." I thought him prejudiced and I presume he was—but I have found out that he had reason to be prejudiced. I did not take his advice—but I have often wished I had. Nowadays when I meet my brother editors we commiserate ourselves over the impossibility of getting readable and reliable stuff on scientific subjects and we hold up to ridicule the article which some distinguished specialist expects us to publish. Writers swarm into our offices, male and female, aged sixteen to seventy, willing and anxious to give us stuff on chamber music, military science, Gothic architecture, Japanese prints, Cretan archeology, Russian linguistics, ceramics, finance, housing, etc. Some of these writers are competent to treat such technical subjects in a way to interest and instruct the average reader. But if we want something on sound in the style of Tyndall, something on insects in the style of Fabre, something on chemistry in the style of Duncan, something on geology in the style of Shaler, something on earthworms in the style of Darwin, something on diatoms in the style of Haeckel, we have to go after them and then generally fail to get them. We are not after great men for, to be frank about it, the name of no man of science carries much weight on the cover of a magazine. One of the most popular newspapers of the country publishes its scientific articles under a pseudonym. We do not care in this case to get at the man "higher up." The man lower down will suit us if he knows how to read scientific literature and how to write popular literature. Our colleges and universities are turning thousands of young men and women out who are or should be trained in both these arts. Where are they? And why do they object to earning a little money in their leisure hours? They are not all capable of doing original research. They are not all busy in technical work. They are, many of them, just the sort of people who should serve as the interpreters of science, the missionaries of the movement, the middlemen of the business, the conduit from the source to the street.

Every few weeks the editor or the publisher drops into my office and says: "See here, Slosson, we haven't had any popular science articles in a long time. The last numbers have been poorly balanced. There must be lots of good material coming out now. Can't you rustle up some of it?" And I smile encouragingly and say: "Yes, there is lots of it. I'll see if I can't get something." But when he goes out and I tell over on my fingers—of one hand—the names of those I can call on my heart fails me. There is Prof. A.—one of the most interesting talkers I ever heard, one of the most uninteresting writers I ever read—I'm afraid he is mad because after I had begged him to write up some recent researches in his field of great popular importance, I sent back his manuscript twice to be rewritten because the principal words he used were not defined in the dictionary—nor in the article. Then there's Mr. B.—a scientific sophomore in the University of Atlantis, a bright chap with a knack of putting things, but he made a bad break in his last contribution which called out some sarcastic letters—the sort I used to write to editors. And there are others, graduate students, assistants, teachers, men who stand at the very frontier of human knowledge, familiar with sources, knowing real science from fake science, eager and able to write but when they come to me or I get after them they ask helplessly: "What do you want me to write about?"

I count ten before I answer. Then in as calm a tone and polite a manner as I can at the moment assume, I say that since they are more conversant with the latest advances in their respective fields than I could be perhaps they might suggest some topics, a dozen or so, that might be worked up into a good news story.

What do they take an editor for anyway? If I knew what they know I should not ask them to write. I should do it myself. Do they think that our correspondent somewhere in France cables to us: "Come over and tell me what there is here to write about?" Do they think that our musical critic drops in to ask: "Have I heard any new composers recently whom you think I ought to write about and if so what should I say about them?" Did Columbus go to King Ferdinand and inquire: "Has Your Majesty anything in the seafaring line that you would like to have me do?"

When I was a chicken I had to scratch gravel for my grub. Wyoming was not the best place in the world for one afflicted with the *coethes scribendi.* The library contained about three thousand volumes largely Pub. Docs. But late in the afternoon after I had run off the last of my analyses and dismissed the lingerers from the laboratory, I used to lock my basement door and slip upstairs to the library to see what I could find to write about. I could always find something. Once I thought I would have to give it up. I looked over the latest periodicals, which were put on the radiator for convenience, and the only new thing I could find was a copy of a government meteorological monthly, mostly tables, but in one corner I discovered an item about a new record of a *ballon-sonde.* With that as a clew I wrote eight hundred words on "The Exploration of the Upper Atmosphere" for which *The Independent* sent me eight dollars and it was welcome in those days.

One day I saw in the paper that a Nobel prize had been awarded to Sully-Prudhomme. I had never heard of the gentleman and I ransacked the library with little success. Two incidental references were all I could unearth but by raiding the French classroom in the absence of the professor I got a little book on French verse by Arthur Canfield with one or two of his poems. This gave me material enough for a four page article on "The Poet of Science" and it was not so bad as you would think. That was twenty years ago, but a professor of French literature whom I met the other day complimented me on it.

These personal reminiscenses are merely introduced to explain why I lose my temper when somebody within five cents of two of the largest libraries in the country tells me he cannot find anything to write about. I feel like saying to him as was said to the sailors on the ship in the mouth of the Amazon who signaled to a passing vessel for fresh water: "Scoop it up. It is all around you." I would remind them of Chesterton's remark: "There are no uninteresting subjects, there are only uninterested persons."

Which side of the barricade I am on does not matter to anybody. What does matter is that the barricade is there. With more science taught than ever before, with science making more spectacular progress than ever before, with science coming more closely in touch with daily life than ever before, there is, I veritably believe, less interest taken in it by the intelligent cultured layman than there used to be. Science has won its way into the schools. It has yet to win its way into the hearts of the people. It is not complimentary to science that closer acquaintance with it should lead to dislike of it. There is for one thing an active and organized opposition to the propaganda of science, which has been intensified by the reactionary spirit always engendered by war. All the crimes of Germany are charged to her scientific training. This is rather amusing in view of the criticism of German schools by German scientists for being too classical. See, for instance, Ostwald's *Ueber die Schulelend* or "What's the matter with our schools?" In England the headmasters are urging that the study of the classics is the best way to support the monarchy for they prove the inevitable failure of democracy. In this country the mere proposal to found a modern school to see if there cannot be found some other way of attaining the cultural aims of classical education brings a mass meeting at Princeton to counteract the movement. Everywhere we hear demands for a return to the "humanities" meaning mostly by that an intensive study of the atrocities committed during the Trojan and Peloponnesian wars.

The antagonists of science do not question the achievements of applied science, they do not object to the pursuit of pure science, they do not deny the practical advantages of elementary scientific education. What they do question is the esthetic, intellectual, and moral benefits of scientific training; that it can stimulate the imagination, broaden the sympathies, clarify the mind and elevate the character. In short they challenge the cultural value of science. Music, we know, has a value to those who are not musicians, architecture to those who are not architects, poetry to those who are not poets, history to those who are not historians, classical literature to those who are not classical professors. Has science any such value to those who are not its professional practitioners? That is what was to be demonstrated and has not yet been demonstrated to the satisfaction of the world at large. It must be admitted that some of those who have taken scientific courses with A grades do not show in their character and mental attitude any evidence of beneficial effects from the information acquired. It is of course admitted on the other side that some classical students never get an inkling of the cultural value of their studies, tho if I ventured to give any figures as to the percentage I should get into trouble.

But however we may think the two types of studies compare in regard to intrinsic and possible cultural influence it must be acknowledged that classical and literary studies are more commonly taught with a view of exerting such influence while this side of the science is frequently ignored in the classroom and unappreciated by the world outside.

It may be said that the commonly professed admiration of fine arts, music, literature, and the like is largely a fashionable affectation. That is likely true but the mere existence of hypocritical interest proves that there are a certain number of respected people who have a non-professional interest in and get a genuine benefit from such pursuits. That there is no similar social pressure imposing an affection of admiration for science proves that there is no considerable body of laymen who take that sort of an interest in science. There are doubtless many people who have never enjoyed a symphony or have never been thrilled by "a chorus ending from Euripides." But those who have not, feel a certain misgiving and reluctance about admitting their incapacity to appreciate such things even tho they may in bravado profess disdain of them.

On the other hand those who have never felt the delight of the solution of a scientific problem or experienced a moral elevation at "the contemplation of the starry heavens" have no sense of secret shame but are more apt to boast of their ignorance and incapacity. Witness the contempt manifested by the classicists "for the modern side" as given in Kipling's school stories. It is even possible to discern distinctions in the honorific rank of the several sciences, dependent, as in the case of aristocratic families, chiefly upon their ages. Astronomy, for instance, claiming a respectable antiquity of some six thousand years and having received the commendation of such well-known literary men as David, Kant, and Addison, is not to be sneezed at as chemistry is. Yet the contemplation of the electronic systems within the atom is quite as awe-inspiring and gives one the same sense of moral elevation as may be derived from an appreciation of the magnitude of the starry heavens. Of course astronomy, being in its higher branches a useless study, has thereby a better claim to honorific rank with those who admire only the sciences that belong to the leisure class and do not have to work for a living. Mathematics, almost as old as astronomy and also largely cultivated from non-utilitarian motives, is held in higher esteem than such parvenu and practical sciences as botany and zoology.

But the strange thing is that science has lost its established position as a part of conventional culture very recently, even during the last fifty years in which scientific progress has been unprecedented and scientific education has become universal. It is as if when the whole population had been taught to read, reading should go out of fashion. A gentleman and scholar in ancient Athens regarded it as his duty to know what science there was to know. He might despise Phidias but he would admire Archimedes. Virgil used his art to teach agriculture and Lucretius used his to teach physics. Napoleon delighted in attending the seances of the Academy of Sciences and Frederick the Great was as fond of scientists as he was of poets. Statesmen of the old school such as Jefferson and Franklin took a personal interest in the advancement of science.

In my office there stand the bookshelves holding the files of *The Independent* and *Harper's Weekly* stretching back for more than half a century. One was started as a religious and the other as a political journal. But when I take down one of the cumbrous volumes and turn over its yellow pages I see that both give a definite and considerable space to scientific news, evidently because in that day all persons of any pretentions to culture regarded as their duty and privilege to keep informed of the progress of science as they did of arts, politics, religion, and literature. Lectures at which were demonstrated the wonders of oxygen or the magnetic telegraph were reported with the same enthusiasm as a concert or ball and evidently attracted audiences as large and fashionable. Look in the old *Scribner's* or *Harper's* monthlies and you will see a department of science and invention. These are not to be found as a regular feature in such weeklies and monthlies today and altho scientific articles do occasionally appear they do not take so much proportionate space nor cover the ground so systematically as used to be the case. There is little effort made to interest the public in science nowadays. We have many scientific periodicals, both technical and popular, but they do not reach the same readers. Consequently our people are divided into two sections, reading different things, speaking different languages, thinking different thoughts.

In short, there is a barricade.